

Delay On Make (Operate) TDU, KSDU Digi-Set Timing Modules

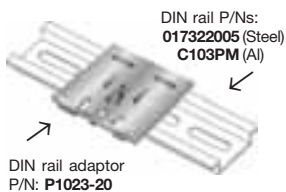
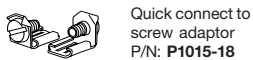
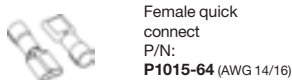
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- 2 Universal Voltage Ranges
From 24 ... 240 V AC/DC
- Digital Integrated Circuitry
- Switch Selectable Delays
From 0.1 s ... 2.8 h in 3
Ranges or Factory Fixed
- +/-0.5% Repeat Accuracy
- 1 A Steady - 10 A Inrush
- Totally Solid State and
Encapsulated

Approvals:

Accessories



See accessory pages for specifications.

Description

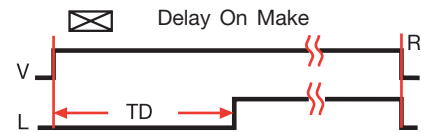
The TDU and KSDU Series are encapsulated solid state delay on make timers that combine digital timing circuitry with universal voltage operation. The TDU offers DIP switch adjustment allowing accurate selection of the time delay over the full time delay range. The KSDU is factory fixed from 0.1 s to 10,230 s and does not include the DIP switch. These series are excellent choices for process control systems and OEM equipment.

Operation

Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output energizes and remains energized until input voltage is removed.

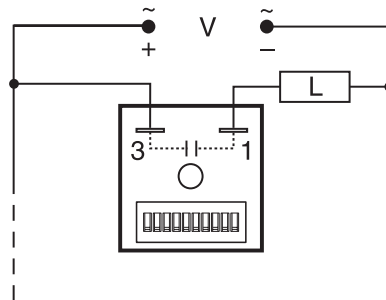
Reset: Removing input voltage resets the time delay and output.

Function



V = Voltage R = Reset TD = Time Delay
L = Load —||— = Undefined time

Connection



Dashed lines are internal connections.
Load may be connected to terminal 3 or 1.
TDU has DIP switch adjustment; KSDU is fixed.

Ordering Table

TDU Series	Input Voltage Range	Time Range - Seconds	Part Number
	24 ... 120 AC/DC	0.1 ... 102.3	TDUL3000A
	100 ... 240 AC/DC	0.1 ... 102.3	TDUL3001A
	24 ... 120 AC/DC	1 ... 1023	TDU3000A
	100 ... 240 AC/DC	1 ... 1023	TDU3001A
	24 ... 120 AC/DC	10 ... 10230	TDUH3000A
	100 ... 240 AC/DC	10 ... 10230	TDUH3001A

KSDU Series	X Input Voltage Range	X Type	X Time Delay (Seconds)
	-8 - 24 ... 120 V AC/DC	1 - Fixed	Specify fixed delay in seconds 0.1 ... 10230
	-9 - 100 ... 240 V AC/DC		

Example P/N: **KSDU81300**, **KSDU910.1**

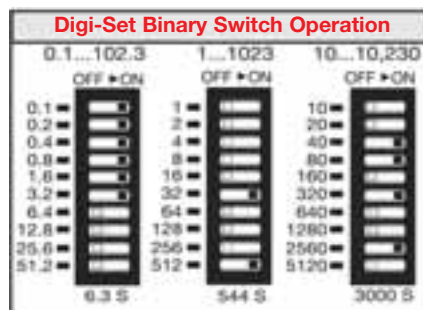
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Technical Data

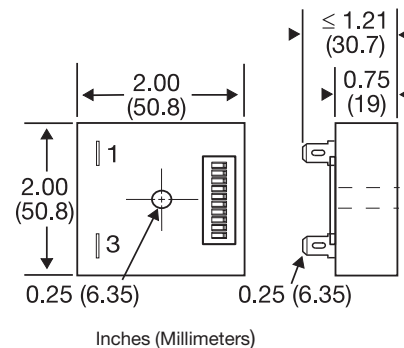
Time Delay			
Type		Digital integrated circuitry	* For CE approved applications, power must be removed from the unit when a switch position is changed.
Range*	Adjustable (TDU)	0.1 ... 102.3 s in 0.1 s increments 1 ... 1023 s in 1 s increments 10 ... 10230 s in 10 s increments	
	Fixed (KSDU)	Fixed from 0.1 s ... 10,230 s	
Repeat Accuracy		+/-0.5% or 20 ms, whichever is greater	
Tolerance (Factory Calibration)		+/-10%	
Recycle Time		≤ 150 ms	
Time Delay vs. Temperature & Voltage		+/-5%	
Input			
Voltage		24 ... 120 V AC/DC 100 ... 240 V AC/DC	
Line Frequency		50 ... 60 Hz	
Tolerance		+/-20%	
Output			
Type		Solid state	
Form		Normally Open, open during timing	
Maximum Load Current		1 A steady state, 10 A inrush at 60°C	
Minimum Holding Current		40 mA	
Voltage Drop		≅ 2.5 V at 1 A	
Protection			
Circuitry		Encapsulated	
Dielectric Breakdown		≥ 2000 V RMS terminals to mounting surface	
Insulation Resistance		≥ 100 MΩ	
Mechanical			
Mounting		Surface mount with one #10 (M5 x 0.8) screw	
Package		2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm)	
Termination		0.25 in. (6.35 mm) male quick connect terminals	
Environmental			
Operating Temperature		-40°C ... +60°C	
Storage Temperature		-40°C ... +85°C	
Humidity		95% relative, non-condensing	
Weight		≅ 2.4 oz (68 g)	

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TDU Adjustment



Mechanical View



Adjustment Switches Shown Not Included
on KSDU Series.